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ABSTRACT

Noting that many of the attacks on individual scientists as well as some of the attacks on the field of behavior genetics are more than intemperate--they are non-rational--the author discusses his experience as a signatory to a document drawn up by Ellis B. Page during the winter of 1971-1972. The intent of this controversial document was to defend publicly the right of scientists to pursue the investigation of the role of biologic factors, in human behaviors. The author identifies two historical trends--and perhaps even forces operating within science that contribute to much of the confusion in the current controversy. One is the tendency of scientists to reify or think of theoretical formulations, and especially Descartes' distinction between the mind and body, which are comfortable ways to think about data as if they are Platonic truths. Behavior genetics, in contrast, identifies the artificiality of the gene-environment distinction and insists on recognizing genetic and non-genetic factors as essential co-determinants of human behavior. Another factor involves the use of the IQ test to select the intellectual elite class. The author concludes by arguing that it is the prime responsibility of the academic community to guard the precious fire of free inquiry. (Author/JM)

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RACE, REIFICATION, AND RESPONSIBILITY

by

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> "If there is any principle of the Constitution that more imperatively calls for attachment than any other, it is the principle of free thought--not free thought for those who agree with us but freedom for the thought that we hate."
>
> Holmes

Prologue

The events that led to the holding of this Symposium are not only interesting in their own right, but help to identify some of the nonrational factors which seem critical to this observer. During the winter of 1971-1972 Ellis B. Page drew up a two-part document on behavior and heredity. The first section described very briefly certain threats to the freedom of scientific inquiry within the academic community which troubled him. There followed a five-part resolution defending the right of scientists to do research into the biologic as well as the nonbiologic basis of human behavior. It supported the importance of such a line of inquiry as a complement to the environmental approach. It also deplored the lack of weight given to the role of heredity in a number of disciplines. Some fifty scientists who shared Doctor Page's concerns to varying degrees independently signed this document which appeared in the Comment section of the American Psychologist in July of 1972.

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I shall personalize this presentation by only describing a representative selection of subsequent events in which I was involved. While this may be of limited generalizability, it is still of value since it does represent first-hand experience. Several friends to whom the Resolution was shown warned me not to sign it since it could lead to my becoming identified with racism in America. This seemed a rather remarkable fear since my liberal credentials were in order and the Resolution made no specific mention of group or even for that matter individual differences in human behavior. On much respected colleague refused to sign since he feared such an act would make him the target of radical students at his university. He subsequently congratulated me privately on my courage. For the sake of historical accuracy it should be noted that my signature was more a reflection of naivete than courage. The signing of this Resolution lead to the receipt of a number of letters ranging from critical to threatening. These included a demand on the President of my university that I be fired for having signed this document. Late in the year, a letter arrived from SPSSI informing me as a signer that a Commission of the Renewed Assault on Equality had been formed which wanted to study the social meaning of this Resolution. I inferred from the rather staccato-like listing of their five questions, particularly numbers three to five, that there was a hostile tone to their inquiry. This is not to say that the letter implied any hostility to the Resolution, but rather to emphasize that this was my inference. This distinction between inference and implication which has been lost in the third edition of Webster's remains important and will be developed somewhat later. A lengthy correspondence ensued in which positions were clarified and arguments aired. My initial ruffled feelings were sorted out and I felt much more comfortable about the intent if not the tact of this

unfortunately named Commission. It was difficult not to infer bias or prejudgement from the name chosen by the Commission and even more difficult to grasp the therapeutic benefit of a name change. Nevertheless, the emphasis of their concern seemed to me to change dramatically over time. Initially, the Commission knew "of no evidence (emphasis mine) that there is academic or scientific suppression and censure...." This rather strong and clear statement subsequently changed to systematic suppression (emphasis mine) of a hereditarian viewpoint. Clearly, there is a fundamental difference between these two statements. Correspondence with the Commission revealed it had inferred from the Resolution that the signers were suggesting the existence of an effort at systematic suppression of behavior genetics or what might be termed more simply a plot. There were repeated references to the implications of the Resolution. It would be more fair to speak of their inferences rather than its implications. Speaking for this signer, I never thought at any level--conscious or otherwise--that there was a plot in the academic community to suppress the field of behavior genetics. A wish perhaps, a plot certainly not. The insistence that the Resolution refers to a concerted effort at suppression of genetics is at best a misleading distortion.

Position

There has been rampant irresponsibility within the academic community on both sides of the position supported in this Resolution. The defenders and the attackers have been quick to label each other with a variety of mindless epithets. Having spent some of my youth being denounced as a communist it is perhaps only in the nature of balance that I spend some of my middle years being denounced as a facist. Many attackers of the Resolution claimed it was a thinly disguised effort to attribute genetic deficit as the

cause of black-white IQ score differences. The most generous comment I can make about this inference is that it is of a high order and far removed from the data of the Resolution. A less generous analysis is that the accusation is a deliberate lie intended to politicize the situation and prevent, thereby, any rational debate. The SDS misrepresented the Resolution in some of its "literature" as an advertisement. Perhaps it is not a surprise that the SDS is so careless about the relationship between facts and language. Any organization that includes democratic in its name despite the antidemocratic nature of its activities is likely to be careless about other words as well. What is more difficult to understand is the behavior of colleagues who accept SDS statements as de fide truths requiring no further substantiation. A recent example of this curious trust is a letter to the signers from a member of the scientific community demanding that we withdraw our signatures and repeating the SDS lie that the Resolution was an advertisement. Needless to add, the writer of this letter has no training or competence as a geneticist. He is not even a behavioral scientist.

Many of the attacks on individual scientists which include physical assualts as well as some of the attacks on the field of behavior genetics are more than intemperate. They are nonrational. Ringing denunciations of 19th century eugenics are made side by side with comments about the limitations of contemporary behavior genetics from which I infer the suggestion of a relationship. Perhaps we should demand that our sister science disassociate itself from its historical past. This seems grossly unfair. It is true the field of behavior genetics has a historical relationship to the eugenics movement but it is also true that the field of chemistry has a similar relationship to alchemy. Those of us who are presently or were formerly in academic psychology need not look too far into our own past to find some

reasonably absurd precedents which are better forgotten. A recognition of past errors should only make us cautious but not lead to the scourging of present day science and scientists.

This Resolution whose intent was to defend publically the right of scientists to pursue the investigation of the role of biologic factors in human behavior was labeled racist by the American Anthropological Association. It is my understanding that their assessment of the scientific merit of the controversial Resolution was done in a remarkably scientific fashion, i.e., a vote. At least this is a quantitative measure and as such may represent a step forward for them. It is my hope that the Behavior Genetics Association will not retaliate by voting on the genetic competence of the American Anthropological Association. Clearly, there has been such an extraordinary degree of misrepresentation and misunderstanding as to require a psychologic assessment of the origins of this nonrationality.

Again speaking in the first person, I can empathize with the fears and concerns of individuals who dread the potential misuse of scientific information to support racist policies. Frankly, I do not believe racists are influenced by scientific findings one way or the other. To me racism is a type of delusion. It is a fixed, false belief which is not ameanable to change through scientific evidence and/or human experience. I also doubt that scientific findings can produce racists. Nevertheless, there is a legitimate concern--shared by this writer--that scientific studies may be used to justify social policies which are destructive or at the very least injurious to certain groups. One approach to the protection of the politically weaker groups in our society is to prevent any scientific investigation that may lead to such an undesirable outcome. Responsible people may argue that there are certain lines of inquiry which should not be followed because the potential

risks far outweigh the potential benefits. This is certainly true in situations in which the individual subject is exposed to personal risk with the hope being that another individual will derive benefit at some future time. There is a second concern which weighs very heavily on my own conscience. It is the freedom--particularly but not exclusively for the scholar--to think ideas which deviate from the current norm. As corollaries to this freedom to think, there are the freedoms to study, to discuss, to debate, and the responsibility to modify through the corrective rational feedback from those around you. Since I value all of these very highly, it is necessary for me to find a compromise when and if they come into conflict. However, I feel a very powerful case can be made that the conflict is more imagined than real.

The issues surrounding the determination of human behavior including individual and group differences are charged by an excess of affect. This leads to the inundation of the cognitive processes and to fundamental blunders. An example is that respected colleagues constantly use the word "versus" when speaking of genetics and the environment. This is a basic error which would not be made by a first-year graduate student in biology whose adrenals were in a resting state. Setting aside for the moment the many emotional considerations which have led to nonrational positions, we can identify two historical trends--and perhaps even forces--operating within science that contribute to much of the confusion in the current controversy. I submit that as in most controversies, there is more confusion and ignorance than substance.

Descartes' distinction between the mind and body has been one of the most productive and useful divisions in the history of Western thought--both politically and scientifically. Politically, it was a most fortuitous distinction since it removed the study of the body from church-imposed restraints. By giving unto the church the mind and unto natural science the

body, he achieved a working truce between a powerful and a fledgling political force. While the disparity in strength between church and science has shifted, we should not deceive ourselves into believing that free scientific inquiry has the power, for example, of the military-industrial complex. Science and the freedom of thoughtful inquiry which underpins it, is a large but nevertheless delicate entity whose continued existence can easily be threatened. The perversions of science to the will of the state go on in 1974 and do not need to be documented further. The lesson to be drawn from these experiences is that when science and politics mix, it is science that suffers.

Scientifically, the mind-body distinction has been extraordinarily productive. It has freed neurophysiologists to look at molecular function without having to be immediately concerned with molar behavior. It has led to useful differential diagnostic activities in the clinic, including different forms of treatment for disorders which are "organic" as opposed to "functional." In summary, the dualism of Descartes was wonderfully useful as a concept but as with all formulations it has inherent limitations and disadvantages. Any cognitive order that we impose on data excludes certain other useful formulations. Dualism has been productive and now the time has come to go beyond it. We must develop new constructs which synthesize the positions derived from the arbitrary dichotomy rather than to build further upon them. All human behavior is inextricably interwoven with the function of the central nervous system and can only be fully comprehended through the inclusion of an understanding of it. Our task is to unite these different disciplinary insights into a comprehensive theory rather than to restrict ourselves exclusively to any single vantage point. An exclusively biologic explanation of human behavior is reductionistic and suffers from the second problem which we shall delineate momentarily. On the other hand, to ignore

the biologic functioning of the nervous system is to be naive and simplistic.

Theoretical formulations including the mind-body distinction which are comfortable ways to thinking about data are treated as if they are Platonic truths. This tendency to reify, poisons much of contemporary science and leads to violent partisan quarrels. Science is not the pursuit of absolute truth but rather the pursuit of useful ways of thinking about data. A tendency to treat the mind-body distinction as a real one has even led to different schools of thought concerning human behavior which are often dubbed biologic versus psychologic. Unfortunately, the use of the word "versus" in this context accurately depicts the reality.

It may be helpful at this juncture to review briefly the actual position of behavior genetics in contrast to the reified version. An important theoretical contribution of the field has been its identification of the artificiality of the gene-environment distinction and its insistence on recognizing genetic and nongenetic factors as essential codeterminants of human behavior. Behavior genetics clearly states that the distinction between the environment and genes is arbitrary although useful. No genotype operates without an evoking environment and no environment can evoke without the presence of the genotype. Dobzhansky (1964) has clearly made the point that both are necessary and, therefore, both are equally important in the case of the individual phenotype. In a real sense the environment determines which of the large number of genes making up the individual's endowment will become the effective or operational genotype by selective enhancement and suppression. An excellent illustration of the limitation of semantic conveniences in approximating biologic realities can be drawn from a classic experiment in behavior genetics (Zamenhof, et al. 1971). A normal group of female rats when fed protein-deficient diets will produce offspring who show fewer and

smaller brain cells. The brains of these young rats do not respond to a normal protein diet. Man's cognitive apparatus interprets this as an environmental effect which is uncorrectable by further dietary manipulation. Nevertheless, these "uncorrected" rats also produce offspring with a reduction in number and size of brain cells. It takes several generations for this so-called environmental effect to disappear. Are we to conclude that an environmental effect was transmitted in reproduction? It is wiser to recognize the limitations of our cognitive apparatus rather than to insist that the laws of nature must approximate in every particular our disciplinary ways of thinking. It is vital that at the very least the limited goal of laying to rest the false issue of heredity versus environment be achieved.

It is generally believed by behavior geneticists that the gene even when activated does not determine the phenotype in an inevitable and totally predetermined fashion. There is a range of possible phenotypic outcomes or technically phenoptions inherent in any given genotype. Genetically identical individuals will show different outcomes if exposed to different evoking environments and genetically different individuals will show the identical phenotype when exposed to different environments. In other words, individuals can be isogenic without being isophenic or can be isophenic without being isogenic. Clearly, this insight further complicates matters and serves to make simplistic statements about individuals--be they genetic or environmental in content--less tenable.

It may be useful to shift the focus now from the individual to the group. It is obviously possible to take a population of individuals and measure through the appropritate mathematical techniques a proportion of within group variance attributable to genetic or nongenetic factors. The estimate would be valid for this population at this given time in its history if the trait in

fact follows the mathematical assumptions of the method for deriving the estimate. It would not be predictive of a genetically different population or even of the same population in a different environment. Even if the estimate of heritability were to be approximately the same in a second population, this finding would only have limited usefulness in terms of speculating as to the origin of any between group differences. All of this is well known and only requires repetition because it appears to be equally well forgotten.

The politicized climate is such that the contributions of behavior genetics to an understanding of individual and group differences can not be stated in general terms but must be specifically applied to and defended in the IQ debate. The insights of genetics concerning IQ are real but do not readily translate into policy. Nevertheless, it has become a popular pastime in recent years to attack IQ although it is beyond question the best measure ever developed by psychology. It seems absurd to have to recognize that this single measure has multiple limitations. What is remarkable and deserving of careful scrutiny is its predictive power. There are many types of cognitive ability worthy of the designation intelligence. IQ does not purport to measure all of these. It does, nowever, measure in a reasonably reliable way certain abilities--particularly abstract categorical thinking--which are predictive of certain performances including socioeconomic in our culture. Considering how many other factors including motivation go into the determination of one's socioeconomic destiny, it is amazing that the IQ score predicts at all. We must ask if IQ is diagnosing a social problem which intellectuals are reluctant to face, a problem which is not racial at all but which some intellectuals prefer for self-serving reasons to identify as such. Oriental-white and black-white differences may highlight the problem but they do not, in my judgement, comprise it. This speculative hypothesis will be developed later

as a third trend that contributes to the confusion.

The must conservative analysis of within group differences attributes 80% of the IQ variance to genetic factors and only 20% to the environment. Yet, according to this conservative analysis of relative contributions, a one S.D. difference in total environmental effect would equal 6.7 IQ points ($\sqrt{\text{variance} \times .20} = \sqrt{15^2 \times .20}$). As much as 6.7 IQ points of difference between genetically identical white individuals could theoretically be explained by one S.D. of total (direct & indirect) environmental effects. (The exclusive use of white identical twin data would yield a S.D. of 4.74 as the measure of total environmental effect.) Furthermore, there is no single genotype for a particular IQ score or range. The identical phenotype, i.e., score, can be achieved by the same or different genotypes. If the unwise leap were made directly from within to between group differences using the identical approaches, the assumption of one standard deviation of inferiority in the black environment could explain up to 45% of the group IQ difference.

This illustration is not meant to be offered as evidence nor does it imply that a fixed percentage of the between group difference in black-white IQ scores is attributable to group genetic differences but rather to illustrate how reflecting on the genetics dispassionately forces us to extremely cautious conclusions. One would have to be rash indeed to suggest drastic measures when a significant amount of the group difference can be accounted for on the basis of nongenetic differences making the most conservative genetic assumptions. More importantly, behavior geneticists generally believe that any large breeding population--and ultimately that is what defines a race--is equipotential with all other large breeding populations. There are no known genetic differences between Orientals, whites, and blacks which are critical to the best of our present knowledge. The only interesting differences

between races are in the relative frequencies of particular genes. (There are a few genes which are unique or almost unique to particular racial groups but we believe these to be biologically unimportant.) Gene frequency is determined by the environment in which that breeding population has lived. In a very real sense, every race represents an independent gene-environment experiment. Differences in gene frequency do not produce inferiority nor superiority. More importantly, although there are differences between individuals and between groups genetically, the outcome of that gene-environment interaction can be influenced through manipulation of the environment. If our goal is to achieve identical phenotypes, it is theoretically possible within relatively broad boundaries to take different genotypes and place them in different environments and produce the same phenotype. Fortunately, mankind does not possess the knowledge to manipulate the environment in this fashion as yet. Certainly, it does not have the wisdom to exercise that power should it be developed.

It is hard to believe that there are serious scientists who deny the importance of genetic factors in human behavior. Are we to believe that behavior genetics is a fraud and that humans are the only form of life impervious to genetic forces? Genes operate in human affairs. The more we understand their influence, the safer we are from ignorance and/or malice. There is no doubt if we made the environment identical that certain individual and even group differences would still exist. Only now they would be totally genetic in origin. To wipe out individual and/or group differences while maintaining genotypic diversity would require the ability to identify the genotype, the specific evoking environment, and the necessary timing of the interaction that would create this uniform, Orwellian nonperson. Only then would it be true to say that all men are equal!

It is a far cry from these limited insights of behavior genetics to social policy. I, for one, would be hard pressed to derive specific social policy from my knowledge of the importance of genetic factors in human behavior. Clearly, it is the height of intellectual arrogance to suggest that the environment of the poor should be improved so that their children will have higher IQ's. The moral obligation that a wealthy country such as ours has to define a standard beneath which a citizen is not forced to live is clear, compelling, and independent of IQ test sccres. The equalization of opportunities and the ending of discriminatory practices is a matter of justice and not knowing what to do with a stamped addressed envelope. It is certain that genetic diversity must be maintained if man is to have a biologic future. It is almost equally certain that environmental diversity and ease of movement between environments are important if the greatest number of people are to achieve their richest potential. One limited policy experiment that derives from these considerations would be the maximization of educational diversity. There may be more than political wisdom in the creation of school curricula for black ghetto children in Newark which emphasize Swahili, African history, and alternative learning atmospheres. It would be ironic if a former playwright showed more educational creativity and genetic sophistication than the professional educators.

A speculative hypothesis derived from the predictive value of IQ will now be presented as a third--probably unconscious--factor fueling the controversy and one to which intellectuals are particularly susceptible. While I do not have the wisdom to translate this speculation if valid into policy, it may be useful to discuss it. In a technologically advanced society, the IQ test is an excellent measure of those abilities that are valued and rewarded by the society. The future in most technologically advanced countries belongs

to those with an IQ above 115. This group initially contains 16% of the population for whites. When we eliminate those who choose to drop out or who lack the desire to compete or are hindered in their progress through sexual and other forms of discrimination we wind up with a very small subset of the population that represents the elite class in the technologic society--the intellectuals. The intellectual elite class would be no larger than 10% and probably less of the white population. It is this very class that tries to discredit the IQ test and thereby, obscure its diagnostic implications. The implications may be more for nonintellectuals than for nonwhites. It is hard for me to see the significance of the exact percentage of intellectuals for Orientals and blacks. If the vast majority of citizens perform tasks that are relatively devoid of prestige then you have a social system that is inherently unjust and, therefore, unstable. It is necessary to reshape and alter our society so as to reward and more importantly to value a variety of humans and their discrete activities. If our social organization does not reflect and respect the diversity of humanity, then it will not come as a surprise that its institutions particularly educational ones try to homogenize the young into a single useful product.

Responsibility

The final issue addressed in this paper is the one of responsibility. The prime responsibility of the academic community is to guard the precious fire of free inquiry. The University remains one of the few places where people can safely think unpopular thoughts. Tenure was once meant to protect academics from the possible negative consequences of such activities. Today, the dangers are more subtle and more from within the community. The University and its individual members cannot tolerate nor permit the silencing

of heresy. When we start to throttle a man's thoughts we often end up by throttling him as well. This is not to say that there are not other important values in the University but only that open and free inquiry is its highest value.

Every individual academic has additional responsibilities as a citizen. These include participation in the political process of policy making. Not every citizen will chose to involve him- or herself as deeply in these matters as do others. This is as it should be. Nevertheless, if an individual's research lends itself to ready misunderstanding, that person has a greater moral responsibility to society than does a colleague whose work is more esoteric. Even if some colleagues are remiss in meeting this responsibility, it would not justify undermining that freedom of thought which is guaranteed in the academic community.

The currently popular euphemism for control is accountability. It is a cleverly selected word since it suggests as its alternative unaccountability, which is morally reprehensible. There are two important questions that must be raised about accountability. These are for what and to whom. The danger in being accountable for one's thoughts lies in the constraints it puts on the freedom to think. While this freedom is essential in the University, it is extremely important in other human arenas as well. There can be no meaningful freedom of speech in the absence of freedom of thought. The even greater threat lies in accountability to any politial group however selected which seizes the power to decide what is correct and responsible thinking. Accountability does exist in the academic community and in particular in its scientific subcommunity. This accountability derives from the openness of academic inquiry including replication. The frauds are discovered and revealed. This process is, however, not a substitute for the ultimate accountability

which is to one's own conscience. This internal accountability holds equally for the scientist as it does for the war resistor.

The freedom to think and to disseminate deviant ideas is extraordinarily fragile. At the individual level we tend to reject not only the idea but the person. When George Lincoln Rockwell was stoned in Union Square Park by American Jewish veterans I was delighted. At an intellectual level their action was repudiated but at a more powerful level it was valued. Years later when Rockwell was assassinated it came as no great surprise to discover that my internal split between constitutional law and affective retribution had not been healed. I was momentarily glad that he was dead. This ugly pleasure in the destruction of repugnant ideas and their originators is a weakness not restricted exclusively to this writer. This difficulty in allowing, let alone protecting, deviant thought is ubiquitous.

At the group level, even a casual study of history reveals that politics and free inquiry coexist only at a distance. The tragic lesson of Nazi Germany is not that there were scientists who cooperated with the state, but rather that the destruction of the free and open--and therefore self-correcting--inquiry of the academic community was the necessary condition to allow this cooperation to continue in an undisputed manner. When political groups control the freedom of some people to think, the rest of the population is in immediate peril. No group however appointed and/or annointed can decide what are the correct ideas. It is this thought coercion whether it comes from the political left, center, or right that is the ultimate form of facism and a malignacy that we must destroy or which will consume us all.

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